

THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXV. THURSDAY, DECEMBER 20, 1866.

No. 21.

CHOLERA;

AS IT APPEARED IN ROXBURY AND VICINITY IN THE SUMMER AND AUTUMN OF 1866.

[Read before the Norfolk (Mass.) District Medical Society, Nov. 14th, 1866, by B. E. COTTING, M.D., of Roxbury, President of the Society.]

IN the course of the last summer and autumn there appeared in the northeastern half of Roxbury and the southwestern portion of Boston which adjoins or is in part embraced by it, a territory of about two miles square, and having at least forty thousand inhabitants, cases of a disease which those who were called to attend, or to witness, readily recognized as similar to what they had seen, here and elsewhere, in former epidemics, and unhesitatingly called *true cholera*. It also showed itself in Cambridgeport, just over the Charles River, as it were in a continuation of the above-named territory, and was there considered unmistakable. The propriety of the name, however, was strenuously questioned by those who had not seen the cases,* and by officials, who seemed to think the appearance of this disease an impossibility in view of their well-laid plans to prevent its coming.

A lamentable case appalled all the disputants, and hushed all the doubters.

The first case in the order of time is that reported in Cambridgeport, June 30th; next we hear of it near Davis St., July 20th; then near Grove Hall, Aug. 6th; again, near Milldam, Aug. 16th. It was on Washington St., near Roxbury line, Aug. 30th. Between the 1st and 15th of September, it was in East Canton St., Chester Park, Washington St., and other distinct places on Boston Neck, and also in adjoining parts of Roxbury—Fellows Court, Reed St., Davis St., &c., including St. James St. From Sept. 16th to 23d, it was again at Cambridgeport, near its first locality. At the same time it was in Roxbury on Tommy's Rocks, in Linden Park, and, Sept. 28th, in

* Attempts were made to identify these cases of *disease* with a not infrequent *disorder* from indigestion, &c., called in this neighborhood *cholera morbus*; but an experienced physician *at the bedside* of one of these fatal cases would no more have that disorder suggested to him than he would measles when over a case of malignant scarlet fever, although these two diseases were formerly confounded.

Myrtle St. There were also three or four scattered cases in Boston beyond the territory in question, and one reported at South Boston. The cases I speak of were either seen by myself with the attendants, or were reported to me from reliable sources.* In all, including the Cambridgeport cases, there were nineteen deaths—nine males and ten females; with an equal if not greater number of recoveries. There were doubtless other cases, of which we have no accounts.

These cases had the vomiting and purging, rice-water discharges, sunken features, blue surface, shrivelled skin with loss of elasticity, and muscular cramps, together with suppression of urine, husky voice, apathetic indifference to their condition and prospects, and final collapse, which mark so plainly true cholera.

The victims were from all classes and conditions of men, and from all ranks and occupations of life—the eminent and the lowly; one living on his income, and another who labored for daily bread; those who fared sumptuously every day, and those who were uncertain whence the next meal would come; those who had eaten heartily, and those who were a-hungered; those who occupied new and clean houses (with all the modern improvements), and those who hardly knew where to seek shelter; a mother, singly, from a houseful of inmates, shut out from the world by home duties, and the stalwart man while walking the crowded street to his daily work; several in an over-populated place, or one from among many; Americans, Irish, Germans and others; men, women and children of every variety of temperament, habits, constitution, and actual state of previous health; the old inhabitant of the city, and the visitor from the country. In short, those attacked were in "adventitious circumstances," not differing from other members of their families, their neighbors, or the rest of the community, who were not taken.

The locations were almost as various as the classes attacked. The low lands suffered, but the high and airy did not escape. So also the dry and the wet places; by the water and towards the country; the exceeding cleanly and neatly kept, and the neglected and filthy; the gravelly hill-side, the rocky elevation, the valley and the marsh; each and all felt its influence.

How the disease arose, or whence it came, is not known. It is pretty certain that it was not brought in from abroad. The "traditionary trunk" was not; nor the traveller, diseased or sound, calling at the door.† It did not spring out of the ground, unless all

* Drs. Mann and Arnold, of Roxbury, Dr. Sheldon, of Boston, and Dr. Wellington, of Cambridgeport, on whose authority, with my own, rest the statements in this paper.

† There were two cases in another part of Boston from that we write of, and not alluded to in this paper, reported by the City Physician as coming diseased from New York and Philadelphia. They were fatal; but he "took precautions to prevent the spread of the disease."

A resident of Northampton St., which bisects the region which had the greatest number of cases, went with his family some fifty miles into the country. On the second night, he was attacked, according to his wife's account, with "purging, dirty dish-water, turbid discharges, having no smell; vomiting, the same; voice low; was heavy; apathetic, quite unlike himself in any other sickness; cold; had purplish, wasted, shrivelled expression; great appa-

varieties of earth and pavement alike exhale it. "Germs" were not "left behind" in all "the water-closets and privies" used by the victims previous to their attack, unless by a miracle.* It could not be charged to contaminated water;† the water was pure and there was abundance of it. Neither was it carried from house to house. With the exception of four groups, of two‡, six§, three|| and six¶ cases respectively, and each of these groups isolated, the cases were solitary—the several individuals being unknown to each other, and in no possible way coming in contact. Of relatives attending an Irish wake, four succumbed of five immediately taken, while scores at the same gathering escaped; but no one of the numbers in the households of other victims, or at their funerals (some very largely attended), suffered from the exposure. In a house where all the bedding and clothes were "disinfected or burned," a second case at once occurred; while none appeared in several other dwellings where all things unpurified were kept in constant use. No instance occurred, so far as known, amongst those who washed or otherwise cleaned the clothing and articles used by the sick. All the nurses and attendants escaped attack.** Lastly, the disease made no selection of reputedly unhealthy places,†† and "Church Street district," within the limits of the present attack, and foretold to be its "chosen place," was not invaded by it!

rent loss of flesh"—in short, all the symptoms. He recovered. No one else about him, or of the household visited, was at all affected, though no "precautions" were taken.

* "We have satisfactory evidence that the disease is communicable through the evacuations of those affected by it, and in this way only."—Dr. LEE, *Boston Medical and Surgical Journal*, February, 1866, p. 23.

So far as known, the cholera stools of all the solitary cases we write of were "emptied into necessaries and water-closets in common use" without producing ill effects of any kind.

† "Certainly past experience shows that contaminated water, if not the only, is yet a common cause of cholera."—Editorial, on *Cholera*, *London Medical Times and Gazette*, August, 1866, p. 171.

‡ At Cambridgeport, husband and wife died within forty-eight hours of each other.

§ Six in another house, in no way connected with the first; four died within forty-eight hours; two were removed, and recovered. No one was affected by the removal, though there was great excitement among those residing near the place removed to.

|| In Fellows Court, in adjoining houses; no intercourse between the houses; Irish and German.

¶ "Davis St. Cases"; relatives; in constant intimacy; as likely to have been attacked from one and the same cause, whatever that may have been, as to have got the disease from one another.

** We merely relate the facts. Deny the contagion, and these are *positive facts*; assert it, and they then become *negative facts*. "Since we know not the immediate agent, the primordial cause of cholera, such facts are positive or negative, according as one takes ground for or against contagion."—*L'Union Medicale*, May, 1866, p. 207.

Among the "unanimous conclusions" of the *British Cholera Commissioners* are the following, which illustrate some of the difficulties attending adhesion to a narrow exclusive theory. (We italicize the conflicting statements.)

"That cholera is *communicable from the diseased to the healthy*." * * * *

"That cholera may be transmitted by exposure of persons to the atmosphere of buildings, places or vessels which have been occupied by cholera patients, and to the emanations from *clothing, or other articles which have been in contact with diseased individuals*, or which may have become soiled by their discharges." * * * *

"That there is *no reason to suppose* that cholera is communicable by *actual contact between individuals*." * * * *

"That, therefore, nursing in cholera is less dangerous than in some other contagious diseases"!—*Despatch to the Earl of Clarendon*, No. 21, May, 1866.

†† "It would require but a few minutes to trace with the finger on the map of the city the precise localities where this disease will prevail, should it visit us, as well as the spots where it will prove most virulent."—*Report of the City Registrar of Boston*, 1865, p. 18.

Without questioning now the possibility of contagion or communicability in certain circumstances, these cases certainly tend to show that such is not the only or principal mode of propagation of cholera. "The disease," said a neighboring physician, "seemed to drop down without provocation." "Its heaviest sprinkling," said another, "was between the 1st and 20th of September." Evidently there was a morbid influence (Villemin's *nuage cholérique*?) on the locality, seen only in its effects. It disappeared, as it came, without observation. Of a truth, the mysteries of its movements have not as yet been solved.

During the past season, affections of the bowels were not more prevalent than usual; in fact, the number of deaths from such causes fell somewhat below that in the same months of the year previous. According to the Registrars' Reports, the number of deaths in July, August and September, was, 74 in 1865 against 57 in 1866, in Roxbury; 435 in 1865 against 397 in 1866, in Boston.

Though less general, and therefore creating less alarm, the disease was not less severe where it struck, nor less rapid in its course, than when epidemic in former years. Fatal cases generally terminated in six to thirty hours; and were only occasionally continued through several days. In favorable cases convalescence was occasionally rapid, though in most instances it was prolonged, and accompanied with feverish habit. In two or three patients, a typhoid condition followed, and continued for weeks.

For the results of the only autopsy made in these cases, see this JOURNAL, Sept. 20th, 1866, p. 171.

The treatment varied with the different attendants, and the several cases. External warmth always; sinapisms sometimes, were applied. Opiates and alcoholic stimulants were, so far as known, generally administered. So far as known, also, no very "active course" was resorted to in any case. In fatal cases death was generally attributed to the severity of the attack; and no one has yet been heard to declare that recovery in any case was due, solely or chiefly, to the efficacy alone of the drugs administered. In one case, through the tardiness of the messenger, the medicines did not arrive until the patient, on the borders of collapse, began to revive; though the attendant thought that convalescence was hastened by their subsequent administration. In another, no remedies were used, except a little hot drink and external warmth. The patient recovered. A case treated homœopathically proved fatal in twelve hours.

"The vast numbers of remedies recommended," says *Championnière's Journal*, "are the too eloquent evidence of the poverty of our resources in confirmed cholera." As the advocates of each of these remedies, and of various and opposite modes of treatment, claim for themselves special success, the inference is legitimate that the disease has a spontaneous termination, as rigid observations show, due little if any to the drugs administered, and sometimes in spite

of their action. This view is now regarded with more favor than heretofore, and its truth more readily admitted. Listen to Dr. Wilks, of Guy's Hospital, who thus frankly announced the true principle on which all treatment should be based:—"It is surely better," said he, "that the fact should be acknowledged, openly and at once, that we are acquainted with no drug which is capable of checking the course of cholera. We are not afraid to say this as regards typhus, and to shape our treatment accordingly. There would be hope of our learning something of value respecting cholera if we would consent to abstain from referring to the action of our drugs" (and he might have added our so-called "precautions," sanitary and hygienic measures, important though these be) "phenomena which form a part of the natural history of the disease."—*Lancet* (reprint), Oct., 1866, p. 636. In fact, the opinion expressed some time since to this Society (*Boston Medical and Surgical Journal*, Jan. 18, 1866) was in no way weakened by the results of any of the cases hitherto under observation, namely, that "that treatment is best which, with the least violence or perturbation, may soothingly tend to support the vital powers during the progress of the disease to its spontaneous termination."

In the paper last quoted it was stated, that whenever the disease should appear it would probably "disappoint public and private calculations, putting at defiance human control or management." That it has preëminently done so the last season it will need no argument to convince those who have given attention to the discussions upon the subject. In its short and comparatively mild incursion here, it seems to have imitated the greater outbreaks in other countries. M. Blondel, *Inspecteur de l'Assistance Publique* at Paris, "free from all preconceived ideas, and stranger to all the questions of the schools," gives as the results of official investigations, "that the invasion occurred at almost the same moment at all points of the capital; that the disease attacked simultaneously persons having no intercourse with each other; . . . confirming similar observations in former epidemics."—(*L'Union Médicale*, May, 1866, p. 205.) "It is here, it is there, and everywhere. It is in England, in Belgium, in Holland and in Germany. Italy alone seems to have escaped;* a fact which shows that although the disease accompanies armies, it is not the necessary and inseparable accompaniment of war."—*Championnière*, Aug., 1866, art. 7142. A fact which shows, also, that legions returning from an infected country do not necessarily carry it with them.

In other countries a mild attack of cholera one year has too often been the precursor of a severer outbreak in the following. Let us hope that any expectation or fear, founded on its recent appearance,

* Unfortunately, Italy, which escaped the importation through its returning armies, can now claim no exemption, the disease having since appeared simultaneously in several distinct sections of the country.

that a similar return may be looked for here, will prove groundless; and that in this, as in so many other instances, the disease will again disappoint public and private calculations, if any are made on such an hypothesis.

REPORT OF INTERNATIONAL SANITARY CONFERENCE ON THE
HYGIENIC MEASURES TO BE ADOPTED FOR PRESERVATION
AGAINST ASIATIC CHOLERA.

THE Report of the International Sanitary Conference upon the hygienic measures which should be adopted for preservation against Asiatic cholera is divided into six sections, the conclusions arrived at under each being as follows:—

1. As to the hygienic measures which should be adopted in the localities or countries deemed to be the permanent foci of cholera.

There are no direct means of extinguishing the endemic foci of cholera, but we may hope to accomplish it by a combination of measures, amongst which hygienic measures may be expected to play the most important part. Amongst these measures the Commission enumerate a proper sanitary organization, the preliminaries of which have been already set on foot by the establishment of permanent sanitary commissions at the seat of government in each of the Indian Presidencies. Next come the necessary measures for improving the health of towns, again already set about in Calcutta, Bombay, and Madras, and at some of the principal military stations. Next they refer to those measures which relate to the health of our troops, such as have also been taken in hand by our Government; and lastly, those calculated to obviate the danger arising out of the pilgrimages. These are of two kinds—viz., such as are calculated to prevent the development of cholera in the places of pilgrimage during the time that pilgrims resort thither, and next those which are calculated to prevent the propagation of the disease by the pilgrims on their way home. The Commission express a hope that the British Government will continue to pursue, and even extend, the path of reform upon which it has entered, and, above all, recommend that it should not renounce measures of coercion. They remind us that, the transmissibility of cholera being given, and the slow operation of hygienic measures being known, measures of restriction and isolation will be indispensable for a long time yet, in order first to prevent importation (always threatened), and then to give time for hygienic measures to produce their results.

2. As to the hygienic measures for preventing, as far as possible, the importation of cholera by sea.

With this object they recommend the adoption of proper measures of naval hygiene; having regard, first, to the departure of a vessel; secondly, those to be adopted during the passage; and thirdly, on

the arrival in port. The following is their advice on this head, with a view to obtaining uniformity of action:—

(1) To open *concours*, and to give prizes to the authors of discoveries or improvements, having for their immediate result some progress towards the improvement of the wholesomeness of ships, the amelioration of the hygienic condition of their crews, or the welfare of the passengers. (2) The publication of a Manual of Naval Hygiene for the use of the mercantile marine of all countries, the carrying out of the more important directions of the manual to be made obligatory upon all captains and masters of vessels. (3) The encouragement by insurances and rewards to such owners, captains, or masters of vessels as are distinguished for the good condition in which they keep their vessels and crews.

3. As to hygienic measures for lessening the chance of disease being received into harbors.

The Commissioners conclude that the mode of rendering harbors healthy, besides prohibiting the discharge of the common sewers of the town into them, their periodical dredging, and a good sanitary police at the port, consists in the use of those hygienic measures which are the most important as affording preservation against transmissible diseases in general, and cholera in particular.

The rendering wholesome of those quarters contiguous to the harbors, and a very stringent sanitary police there, are also most important preservative measures.

4. As to the hygienic measures for lessening the predisposition of localities to suffer from the disease.

The adoption of measures for improving the wholesomeness of towns is an efficacious means of opposing the reception of cholera and of mitigating its ravages. Such measures consist generally in the use of means calculated to maintain the purity of the air, a proper and abundant supply of wholesome water, and the prevention of the infection of the soil by organic matters.

The disinfection on the spot and instantaneous removal of all excrementitious matters is a hygienic measure of the greatest importance, especially in cholera seasons.

Dr. Dickson informs us that, in addition to the above recommendations, it has been proposed by the Conference that water-closets, drains, &c., shall be disinfected by chemicals from the very moment that diarrhœa begins to manifest itself in a place threatened with an impending outbreak of cholera.

The Commission add:—"We are quite prepared to hear an objection raised on the ground of the enormous expense of the execution of all these measures on a large scale; but our reply is, that the expenditure of the very largest sum for the accomplishment of measures for the improvement of health is only to place out money at very large interest—national health is national wealth.

5. As to the hygienic measures for arresting, as far as possible, the propagation of the disease in the interior of a country.

The following is the summary of these measures adopted by the Commission:—A judicious organization of public relief; general preventive visitation, or at least medical visitation at the houses invaded; immediate attendance on those attacked; the publication of popular instructions; the encouragement which arises out of a confidence in the promptitude and extent of the relief afforded; and the publication of the true state of the epidemic; in addition to these, the establishment of special hospitals and of temporary houses of refuge for the reception of the families of poor patients. Each of these points is dwelt upon in the Report. The Commission insist upon the importance of domiciliary visitation being carried out *daily* and conscientiously, regarding it as truly a *preventive* measure. They insist strongly upon the danger which attaches to the emanations from excrementitious matters, and consider that in cholera seasons it would not even be unreasonable to prohibit the use of common privies, and to render the disinfection of all excrementitious matters absolutely obligatory. They express themselves with equal force upon the subject of perfect frankness being observed by authorities in making known to the full the danger of the population, on the ground of the confidence it would establish and the tendency of the public mind to exaggerate unknown perils; and they think this may very safely be done when conjoined with the reassurance derived from the adoption of rational means of prevention and relief. With regard to hospital accommodation, they express an opinion, in which all sanitary medical officers will, we think, coincide, that every large town should be provided with a *permanent special hospital*, situated outside its limits, for the reception of the earliest cases of any epidemic disease, such as cholera; and as there are sure to be cases which it would not be prudent to transport to a distance, or which require very prompt attention, that there should, in cholera seasons, be also improvised houses of reception in open places within the town itself. They do not regard it desirable that cholera patients should be received into general hospitals, but when this becomes a necessity they consider that the wards into which such are admitted should be quite separate from the rest of the building. They say also that the carriages for the conveyance of cholera patients should be used for this purpose exclusively. They also lay down rules for the management of all that concerns the cholera evacuations, the soiled linen, bedding, &c., and the nurses; and dwell in a most benevolent spirit upon the care which should be taken of the families of those attacked.

Taking into consideration the transmissibility of the disease, they further recommend the temporary interruption of communication with infected localities, which, provided it can be made absolute, is the

surest preservative against the transmission of cholera. The timely displacement and methodical dissemination of movable aggregations of people (such as caravans, bodies of troops, &c.) are, they say, most efficacious means of preventing the outbreak of cholera amongst them, as well as of checking its extension and lessening its violence. Emigration well timed, and dissemination well regulated, may give the same good results with fixed aggregations of people (as in localities, public establishments, &c.).

6. As to hygienic measures calculated to prevent the formation or promote the extinction of foci of infection, by destroying in the air, or in contaminated objects, the germs of the malady.

This is what we mean by the term *disinfection*, respecting which Dr. Muhlig, the reporter of this part of the proceedings of the Conference, has prepared a special report, which appears in the form of an appendix. It is so important, that we shall give the latter an extended notice.

After some preliminary remarks upon the subject of disinfectants in general, the object held in view, and the results obtained hitherto by disinfection in cholera, Dr. Muhlig proceeds to discuss—The various means of disinfection applicable to cholera. First of all he mentions *free exposure to the air*, the length of time that any object must be exposed depending on its physical qualities, and the readiness with which air can penetrate it, or the tenacity with which morbid germs adhere to it. He regards eight days or so sufficient for the purpose of purification under the worst circumstances, but whenever it is possible other means of disinfection should be conjoined—indeed, in many cases, the exposure of contaminated objects may be dangerous. *Exposure to heat* is regarded as one of the best modes of destroying morbid germs in general, but in the case of cholera the heat must be raised to the extent of destroying organic matter; this amounts, then, to *combustion*, if we intend the heating to be of undoubted efficacy. *Immersion in water* constantly renewed can only be used at the certain risk of contaminating the water itself. *Chemical procedures*.—Under this head, Dr. Muhlig discusses the relative value of chlorine and chloride of lime or soda, quicklime, the mineral acids, coal tar and carbolic acid, Condyl, and the salts of iron and zinc. He thinks that the efficacy of chlorine has been exaggerated, that experience has shown that its value is very limited, and that there is not a single conclusive fact to prove that it has any power to prevent the propagation of any one contagious disease. Chloride of lime, so far as the disengagement of chlorine is concerned, is necessarily still weaker than the chlorine used alone, and Dr. Muhlig thinks that whatever disinfectant power it possesses is attributable to the lime which forms its basis. He regards *quicklime* as a highly useful disinfectant, since, besides its chemical action upon organic matters, it fixes and solidifies them at the same time that it also thus prevents the disengagement of emanations; it absorbs water and

watery vapors from the atmosphere, with all that is suspended in them, without liquefaction itself, and also evolves much heat in the process. Its great inconvenience is that it promotes the disengagement of ammonia, and generally merely retards, in place of completely preventing the process of putrefaction. The only value the writer attaches to charcoal powder and *dry mould* is that which arises from their power of absorbing gases. *Peat* he regards, from its power of absorbing ammoniacal matters, as the best disinfectant of urine. The *mineral acids* Dr. Muhlig looks upon as disinfectants only in the sense of their being antiseptics. Nitric acid vapors and nitrous fumes he regards as having only partially justified the confidence which has been reposed in them as anti-contagious agents, and he thinks that the same remark applies to sulphurous acid. *Carbolic acid*, with which he classes coal tar, appears not to have received so much consideration from Dr. Muhlig as might have been expected from the estimation in which it is held in this country, or as it deserved, in our opinion, after the elaborate report upon it put forth by Mr. Crookes. The objection he raises to *permanganate of potash* is its price; still he regards it as a most useful agent in purifying water from organic matters. Among all the chemical disinfectants, M. Muhlig gives the palm, on the whole, to *sulphate of iron*, so far as destroying the infection of cholera is concerned, its cheapness being also very much in its favor. *Chloride of zinc* he regards as undoubtedly superior, the only obstacle to its general employment being its price. We are sorry to confess ourselves somewhat disappointed with this part of Dr. Muhlig's report. We think that a sanitary international conference should have put forth something upon this most important subject that would carry more weight than the string of opinions enunciated by Dr. Muhlig. It contrasts very unfavorably with the admirable report on disinfectants issued by Dr. Angus Smith and Mr. Crookes under the auspices of our own Cattle Plague Commission.

Dr. Muhlig passes on to consider the practical application of the several means of disinfection before referred to in the management of cholera. 1. *As to the disinfection of cholera dejections.* Regarding these as containing the germ of the disease, he insists upon the necessity of submitting them to the operation of chemical agents from the very moment of their discharge. The agent which he prefers is the chloride of zinc, or in default of this the sulphate of iron, or they may be covered immediately on their discharge with quicklime in sufficient quantity to solidify them, or else carbolic acid or coal tar may be used. He gives a warning (very necessary for us in London, who are governed (?) by a number of disconnected local boards) against the absurdity of using a variety of chemical agents at the same time, some of which can only serve to neutralize the operation of the rest. 2. As to the *disinfection of privies and drains*, he considers that much will depend upon the system of sewerage in

use. He thinks that the system of movable troughs (*fosses mobiles*) alone permits of a thorough plan of disinfection being carried into effect. Into these he would introduce, while empty, chloride of zinc, sulphate of iron, or coal tar. Under other circumstances he would treat the privies with a dose of the same disinfectants from time to time, using powdered charcoal also as a supplementary measure, to prevent the disengagement of putrid evacuations. Where a system of channelling is in use (as in London) he would prefer—on account of the vast system of sewers and their free intercommunication—to throw into the privies charcoal and quicklime, but he admits that in this case coal tar may “perhaps be an useful agent.” At any rate, we are using carbolic acid very generally in our city, and it has, we believe, the full confidence of the majority of the Metropolitan Medical Officers of Health. One admirable suggestion of Dr. Muhlig is, that the disinfection of privies and drains should be adopted, not only when cholera has broken out, but as soon as its outbreak is even threatened. 3. *For the disinfection of drinking water*, he prefers filtration through charcoal and the use of permanganate of potash. 4. *As to the disinfection of houses.* Dr. Muhlig recommends, first, free aëration, not only by opening all the windows, but by establishing currents of hot air by means of braziers; next, that the floors, &c., should be sprinkled and washed with a solution of chloride of lime or carbolic acid; after this, that sulphur should be burned, so that the fumes should reach all the corners and crannies. He recommends that this process should be extended over several days, and that finally the walls should be limewashed, and the floors, &c., freely washed with water. Eight days he regards as the shortest period over which the process of disinfection should be made to extend. 5. *As to the disinfection of goods, clothing and merchandize.* Linen articles, &c., before handing over to the laundress, should be disinfected as quickly possible with chloride of lime or soda, and after washing should be freely exposed to the air until absolutely dry, and in order to insure purification the articles should be boiled. The experience of the Imperial Marine Hospital at Constantinople is in favor of this method. Dr. Budd uses chloride of zinc in a similar manner. But it is clear that some articles in common use by cholera patients cannot, from their nature or thickness, be thus treated when contaminated—such articles must be burned. Of this nature are beds, mattresses. At least, if not burned, they should be exposed to a high degree of heat, as recommended by the late Dr. Henry, of Manchester, and subsequently freely exposed to the air. 6. *As to the disinfection of ships.* This Dr. Muhlig confesses to be a most difficult affair. It must, however, be based upon similar principles to those on which the disinfection of ships is based when they are contaminated with yellow fever. The measures to be adopted should be more or less rigorous, according to the intensity of the focus as manifested on board, the lapse of time since the departure from an infect-

ed port, and the degree of healthiness of the port. M. Muhlig, in his report, gives minute instructions upon this subject, which it is unnecessary that we should transcribe, but which we recommend to the study of all who are, or are likely to be, concerned with the prevention of disease at seaports.

There is another appendix to the Report of the Commission, which it is well that we should notice, inasmuch as it indicates the main points which the proposed "Manual of Naval Hygiene" should embrace. Following a natural order, it is suggested that it should first treat of the hygiene of ships anchored in an infected port; the preservative means would then be such as related to the anchorage, the care that should be taken in regard to the receptacles of excrementitious matters, the avoidance of the use of river water where vessels are at anchor, especially for drinking purposes, and the careful watch that should be held over the health of the crew. Next it should treat of sanitary police as respects departure, the wholesome condition, and the capacity of the vessel; the sanitary condition of those embarking, the quality of the provisions taken in, of the clothing, and other things in general use by those coming on board; the quality of the merchandize shipped, the separation of the things in personal use by passengers and crew from the articles of merchandise, and the carrying of a medical man. After this it should give directions as to sanitary police as relates to the passage, pointing out the measures which should be adopted for preventing the invasion of cholera, and then those which should be adopted in the event of cholera breaking out on board. Under the former head the Commission include a rigorous superintendence of the sanitary condition of the passengers and crew, a constant good ventilation of the whole ship, and especially of the cabins; frequent exposure to the air of the things in common use by the passengers and crew, and the careful washing and disinfection of the necessaries. Under the latter head the Commission would insist upon the separation of the sick from the healthy, the adoption of measures for immediate disinfection of discharges, &c.; the prohibition of use by any persons suffering from diarrhœa of the necessaries used commonly by the passengers, and the keeping of a journal of all cases of disease occurring during the passage. Lastly, they would point out the leading circumstances which should guide a commander in his determination of continuing the voyage or of returning into port.—*London Medical Times and Gazette.*

A CIRCULAR has been issued of the Medical Department of Willamette University, located at Salem, Oregon. It has a full corps of eight professors. There are now two medical colleges on the Pacific coast—one at San Francisco, California, and one at Salem, Oregon. At the former (the Toland Medical College) the annual commencement was held Oct. 2d, 1866, and the degree of Doctor of Medicine was conferred on ten graduates.

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL
IMPROVEMENT. BY CHARLES D. HOMANS, M.D., SECRETARY.

OCT. 8th.—*Pneumonia without Expectoration*.—Dr. ABBOT reported the case.

The patient entered the Massachusetts General Hospital August 27th, and the following is an abstract of the record :—

W. C., æt. 24, laborer. Had always enjoyed good health until January last, when he had an attack of pneumonia, lasting four weeks. On recovering, he had been at work until the 17th of August, when the present attack commenced with sharp pain in the left side, followed by chills and fever. Since that time had been at home, although not wholly confined to his bed. At the time of entrance he complained only of pain in the left hypochondrium and lumbar region, which prevented decubitus on the right side.

28th.—Patient up and dressed. Sleep disturbed by dyspnoea. Pulse 132, small and weak, probably excited. Considerable cough, without expectoration. Percussion gave good resonance throughout right front, and there was normal respiration. Percussion slightly resonant and on a very high key beneath the left clavicle. Respiration very feeble and distinct throughout left front, and of a rumbling character. Moderate crackle heard beneath clavicle after cough. Bronchophony at third rib, and increased vocal resonance throughout left front. Percussion dull throughout left back, and flat in lower third; considerable crepitus mixed with coarse mucous rales, heard above spine of scapula after cough, and slightly as low down as angle of scapula. Respiration more audible than in front, becoming fainter towards base, and scarcely audible in lower third. Alteration of voice in back not so marked as in front. Nothing abnormal in right back, or in sounds of heart. Impulse of heart strongest at a point two inches to the right of sternum. No marked change of level of dullness when the patient is in a recumbent position.

Examination of urine gave sp. gravity 1021; reaction acid; no albumen; chlorides nearly absent.

An anodyne expectorant pill was directed to be taken at bedtime, and the patient was put on a diet of beef-tea and gruel, with bread, and a pint of wine whey daily.

Sept. 3d.—Respiration heard distinctly throughout the left back, although feeble in lowest third. Rales very much less towards summit, but heard occasionally towards base. Diet somewhat more nourishing, with the substitution of two ounces of sherry at noon and night for the wine whey.

The condition of the patient improved steadily, and on the 12th decubitus was reported easy on either side. The condition of the urine was about the same, except that the chlorides were somewhat increased in quantity.

Oct. 1st.—Auscultation gave dullness over lower left back much less, with respiration heard as before, but more clearly at the base. A very marked friction sound was now heard, extending from the base

as high as the middle of the scapula. On the 8th, no abnormal physical signs could be detected in either chest.

The chief points of interest in this case were, the want of fever, the comfortable condition of the patient, and *the entire absence of expectoration throughout*. He remained up and dressed every day, and took no medicine except the pill above mentioned, which was omitted at the end of a fortnight, a saline laxative occasionally to relieve constipation, and tr. ferri muriat., ℥xx., which he took during the last three weeks after each meal. During his whole continuance in the hospital not a particle of expectoration was raised, and the cough, which was very slight, and ceased several weeks before his discharge, seemed to be merely irritative.

Nov. 12th.—*Tapeworm voided after taking Kousso, preceded by Cerebral Symptoms.*—Dr. LYMAN reported the case.

G. F., æt. 19. One year ago voided a tapeworm. Was told by his physician that the head was with it, but the specimen I have here was without either head or neck. His principal symptom then was an inordinate appetite. He took at that time a preparation of male fern, the effect of which was very severe and painful.

On the 28th of September, 1866, he applied to me, complaining of general malaise, constipation, loss of appetite and constant headache, from all of which he had been suffering for a fortnight. I found, also, slight febrile action. These symptoms continued, with little amelioration, for a week or more, when I ascertained from one of his friends that before seeing me his mind had been in an anomalous condition, and that he had wandered off to Newburyport, and on his return could not remember where he had been. This fact, combined with the constipation, loss of appetite and persistent headache, gave to the case a more serious aspect. More active cathartics, and a large blister to the back of the neck were resorted to, and in a few days great relief was experienced. The headache nearly disappeared, the appetite returned, and he felt so much relieved that he considered himself nearly, if not quite well. During all this period no suspicion was entertained of a tapeworm. At the expiration of a fortnight, he appeared again, with four terminal joints or proglottides of a tapeworm, which he had just passed. After twelve hours fasting, gave half an ounce of kousso. This caused one liquid operation in three hours, but no worm. In three hours more a second half ounce was given, which caused a second discharge with no result, and in another hour a third evacuation, expelling the worm, eight feet in length, entire and unbroken.

The medicine caused no nausea or inconvenience, excepting that the last operation was quite painful.

The case is reported with some detail, as it is an interesting question whether the cerebral symptoms which existed nearly two months before and ceased a fortnight previous to the expulsion of the worm, were due to its presence or to other causes.

I find in Weinland's monograph on Human Cestoides, a table of 100 cases quoted, of which 68 were "accompanied by cerebral or cerebro-spinal affections, which may extend to maniacal attacks and mental weakness," and 19 had periodical or habitual headache. If the corresponding symptoms in this case were due to the presence of the

worm, it is singular that they should have ceased so completely a fortnight previous to its expulsion.

Nov. 26th.—*Ancylostomum Duodenate*, Dubini.—Dr. WHITE showed the specimens.

A nematoid worm, discovered by Dubini, in Milan, in the human duodenum and jejunum in 1838, and afterwards in Egypt by Bilharz and Griesinger. Allied to *strongylus*, and described by V. Siebold as *S. quadridentatus*. Length of male 3-4", female 4-5". At the anterior extremity is the mouth, consisting of an oblique, horny, capsular disc, directed backwards, which contains four strong recurved teeth, with which the animal fixes itself firmly to the mucous membrane of the duodenum and jejunum. The females are much more numerous than the males. A peculiar and grave form of anæmia had long prevailed in Egypt, which affected one fourth of the population, and was called Egyptian chlorosis, or cachexia Africana, but its nature and cause remained unknown till 1852, when Griesinger, in his travels, made a *post-mortem* examination of one of these fatal cases at Cairo, and found these parts of the intestinal canal filled with fresh blood, and thousands of these little worms attached to the mucous membrane and filled with blood. The appearances produced by these little animals are numerous ecchymoses on the mucous membrane of the size of a millet-seed, in the centre of which is a minute white spot pierced by a deep hole. It is from this little wound that the blood escapes, and from this loss of blood follow the symptoms, which vary in intensity according to the number of worms present. They consist of general pallor, palpitation, slow and feeble pulse, and fatigue on slight exertion, with occasional signs of disturbance in the digestive organs. Afterwards, and in severer cases, emaciation, œdema, a yellow or greenish skin, and all the symptoms of a grave anæmia. The *post-mortem* appearances are those presented in cases of chronic hæmorrhage.

We have no knowledge of the occurrence of this entozoon in this country until within a year. A form of anæmia, with symptoms similar to those above given, has been known in Brazil for a long time, and described by travellers as anæmia tropicalis. No one suspected its true nature until last year, when Dr. Wucherer, of Bahia, discovered three worms in the jejunum, and verified this discovery by another case in May of this year, and from this patient the accompanying specimens were obtained. They were given to Mr. Sceva by Dr. Walbaum, of Bahia, who thus describes the symptoms of the disease as there observed:—"gray discoloration of the skin, great weakness and anxiety, palpitation and perceptible pulsation in the epigastric region, partial blindness, at times yellow coloring of the conjunctivæ, emaciation, thirst, inability to walk, œdema of the face and extremities, colliquative diarrhœa, collapse, death."

Nov. 26th.—Dr. J. WYMAN exhibited the cranium of a young subject, showing elongation of the head co-existing with obliteration of the sagittal suture. The immaturity of the skull is indicated by the fact that the cavity for the wisdom tooth is quite small and deeply buried in the jaw, and of the crown of the first premolar being still contained in the alveolus.

| | |
|---------------------|-------------|
| Length of the head, | 7.3 inches. |
| Height, | 5 " |

Breadth, 5 inches.
 Length of sagittal space, 5.3 "

The ordinary length of this last is about 4.5 inches.

The appearances of the cranium correspond with those observed by Virchow, Lucä and J. Barnard Davis in certain elongated skulls, in which the early obliteration of the sagittal suture prevents the lateral expansion of the head, and therefore tends to an increase of the length of the skull, to accommodate the enlarging cerebral mass.

The cranium exhibited, and another, but adult specimen, presenting the same appearances, belong to the collection of the late Dr. Gaspard Spurzheim, in the Anatomical Museum, at Cambridge.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, DECEMBER 20, 1866.

MEDICAL EVIDENCE.

THE contradictory character of the testimony given by medical witnesses upon the stand is notorious, and there probably never was a case in which both defendant and plaintiff, or State and prisoner, were not able to obtain from medical men just such evidence as they required for the interests of their respective sides. This is a fact as well understood by lawyers as it is deplored by the profession thus made use of; one, moreover, which lowers the character of the physician in the community and brings our art into disrepute as an inexact science. It is so well understood, in fact, by the shrewd advocate, that where nothing to the positive advantage of his client is to be gained from the medical witness, he employs him to weaken the character of the scientific testimony offered upon the other side, by obtaining from him the expression of opinions apparently contradictory upon questions which seem to be, but in reality are not, connected with the case, but which have a tendency to confuse both court and jury, who can never properly discriminate in evidence of this nature.

For this unsatisfactory and often disgraceful status of the medical witness, the profession has itself alone to blame. How often have scientific men allowed personal enmity or rivalry to change them into partizans upon the stand, and to give testimony in which the truth is entirely suppressed on the one side and carried to the verge of wilful exaggeration on the other, so that it has only to be known that Dr. A. is for the plaintiff to ensure the attendance of Dr. X. for the defendant. How often do men allow themselves to be used as experts and to express opinions upon points of grave importance, for which they have not qualified themselves either by practical training or special study. How often do physicians use language so loosely and appreciate the indecision of their own judgment so little, as to permit a keen-witted lawyer to twist their statements into a mass of self-contradictions. How often, too, do those who deplore just this state of things inadvertently answer the questions of counsel in such a way as to mislead non-professional hearers as to the just conclusions to be

drawn from them, either by assenting to the correctness of supposititious cases, which the jury cannot see have no connection with the case on trial, or by using terms capable of a double meaning without carefully defining their exact reference to the case before the court.

A capital trial has recently been held here in which some of these points have been illustrated in a striking manner. The mother of an illegitimate child accused her own mother of killing it by laudanum. The defence was based on the supposition that the child died from the effects of hereditary syphilis. The evidence was as follows:—The child was born at the female hospital in Pleasant St., in a healthy state, weighing 6½ pounds. According to the statement of attendant and nurse it had ophthalmia, which was nearly cured at the end of ten days, when it left the institution in a vigorous and otherwise healthy condition. It was not seen again by any professional person until after its death at the age of one month, and the doctor who was then called in to give a certificate of burial reported that it was emaciated. It was stated that the mother also at the time of birth had some scars which suggested a former syphilitic condition, and the physician who attended her while pregnant in the almshouse at New Bedford testified that she then had secondary syphilis. These, we believe, were the only reliable facts in the case, although all sorts of contradictory statements were made by witnesses on both sides. Yet upon this basis, that an infant born healthy of a mother previously syphilitic has ophthalmia at birth, and is found after death, after probable starvation and possible poisoning, emaciated, the court felt authorized in its remarks to the jury to express the opinion that the child probably died of hereditary syphilis. This opinion was undoubtedly founded on the testimony given by the physicians called by the defence, to the effect that the children of syphilitic mothers are generally syphilitic, that children thus diseased generally die, and that among the symptoms of hereditary syphilis are *sore eyes* and wasting away.

The data being a mother syphilitic during pregnancy, an infant healthy at birth with an ophthalmia nearly cured in ten days, and emaciation after death twenty days afterwards, was syphilis the cause of death? As they appear to us, the facts warrant no such conclusion whatever, not even that a symptom of the disease had manifested itself. We do not propose to discuss here the signs of hereditary syphilis, or the possibilities which might follow in the life of an infant born of a diseased mother. "What might have been" is not within the proper scope of scientific evidence in capital cases. If the medical gentlemen had been asked their opinions as to the cause of death in this case after hearing the testimony, they too undoubtedly would have answered that there was no positive proof that the child had exhibited any symptoms of the disease; and had they been asked what sort of sore eyes they considered symptomatic of hereditary syphilis, they would have said they did not mean the disease which this infant had; facts which would have undoubtedly been elicited had not the Attorney-General previously decided on other grounds to carry the case no farther, and which would doubtless have materially modified the opinion of the Chief Justice as above expressed.

This case illustrates, as we have stated, some of the dangers which arise from medical evidence. No physician should be permitted to testify as an expert unless his qualifications are made known to court

and jury, nor should he be willing to express his opinions on the case unless he has heard the facts and fully understands how his remarks bear upon the case and their interpretation by his hearers. The medical expert should not be a witness for or against; he should consider himself as employed in an impartial capacity, as one holding the same judicial relation to the evidence coming within his province that the judge upon the bench bears to matters of law, and his opinions should be given with equal deliberation and comprehension.

SOLUTION OF CITRATE OF MAGNESIA.

EXPERIENCED pharmacutists have found it difficult to prepare a permanent solution of citrate of magnesia according to the authorized formula, and physicians have found the effects of the article to vary, owing, probably, to its variableness of composition.

At my suggestion, a druggist of this city has for some time past made the solution in the manner proposed by M. Genevoix, of Paris. The formula may be found in the *Journal de Médecine*, Bruxelles, September, 1864. Thus prepared, the solution has been found to keep much longer than the official article without decomposition, and is more satisfactory in its operative effects.

According to M. G., the prevention of precipitation is due to the addition of syrup of sugar to the citric acid (coarsely pulverized), the magnesia and the water, instead of combining it subsequently with the filtered solution. The proportion of ingredients is the same as in other formulæ. A quantity sufficient for six bottles is put into a large bottle and shaken for ten minutes. It is then allowed to stand several hours, or, if frequently shaken, may be filtered, as soon as it becomes clear, into the smaller bottles. The alkaline carbonate is then added, and the bottle is to be immediately corked and tied in the usual manner. If the syrup be added after filtration, or if sugar be substituted, M. G. affirms that the citrate of magnesia is speedily precipitated. E.

Rochester, N. Y., December, 1866.

Prof. C. E. Brown-Séquard.—An evening reception was given by Prof. Edward H. Clarke last week at his residence, at which his guests, the physicians of our hospitals and educational institutions, the professors of the various departments of Harvard University, and other gentlemen not connected with our profession, had the pleasure of meeting Dr. Brown-Séquard. The lectures of this distinguished Professor at the Medical College are attended by a very large class of students and by many physicians of this city and vicinity.

MEDICAL INTELLIGENCE.

A NEW treatment for cancer has recently been proposed by Dr. Broadbent, of St. Mary's Hospital, London. It consists of the injection into the diseased tissue, by means of the hypodermic syringe, of a solution of acetic acid in water, to arrest its growth or to produce absorption by the well-known solvent action of this substance on the tissues. This acid was chosen in preference to other chemical agents

possessing the same property on account of its not coagulating albumen and thus diffusing itself through the mass to be acted on. He injects twenty or thirty minims of the solution, varying in strength from one part to one or four or five of water, into the centre of the tumor, which causes, according to his statement, less pain and burning than when thrown into healthy tissue. Cases are cited where the size of the tumor has diminished after such treatment, and the method has been tried at the Massachusetts General Hospital. It is too early yet to speak of the final results of these experiments.

The Queen has granted a pension to Dr. Hassall, of London, for his public and scientific services, who according to the *Lancet* is in need of such assistance. Dr. Hassall is the author of several valuable works, one of which, that on Adulteration of Food, is widely known in this country.

M. Husson stated recently at the Imperial Academy of Medicine, that formerly five children might be counted for each marriage in France; at the commencement of the century that number fell to four, and now each marriage hardly produces three children in the country, and two in Paris.

M. Natalis Guillot, Professor of Clinical Medicine at the Paris Faculty, recently died at Nice. This is the seventh or eighth vacancy made in that body by death or resignation within a few months.

The announcement, by Atlantic telegraph, of the death of Prof. Trousseau, in Paris, is probably an error, as *L'Union Médicale* of Nov. 27th states that a similar statement had been spread abroad in Paris, but that the distinguished Professor was only slightly indisposed.

WE have given considerable space this week to an abstract from the report of a Commission of the International Sanitary Conference on hygienic measures advisable to be adopted for preservation against Asiatic cholera. Our own abstract from a report by another Commission of the same body was so favorably received, that we feel no apology is needed for occupying so large a space with so important a subject.

Treatment of Subjective Sensations in the Ear, by Dr. A. POLITZER, in Vienna.—The therapeutics of the subjective symptoms in diseases of the ear, which accompany the affections of the cavity of the tympanum, have, as is well known, the best results by means of the injection of air through the Eustachian catheter; still, these injections often have no effect. In some cases they even increase the trouble. In general, the removal of tinnitus aurium is more frequently accomplished where it is intermittent in character. In the cases where it is constant, the effect of the air bath is exceedingly various, so that we can never say in advance if in a given case a favorable result will be obtained. At any rate, too protracted a treatment by injection of air, or of medicated fluids, may act injuriously. It is best not to protract the treatment more than from three to five weeks, beginning again after quite a pause. Of the narcotics which have been used to remove the "noises in the ears," none have been found to have a certain effect. These have been used in the form of vapors (chloroform, ether) blown

into the cavity of the tympanum, ointments of ol. hyoscyam., chloroform, tinct. belladonnæ, acet. morph., tinct. opii, rubbed in the region of the ear. Tinct. belladonnæ, tinct. myrrhæ, have been dropped into the external auditory canal. Sometimes dropping in of lukewarm water, or water and glycerine, have relieved severe tinnitus. There are yet no accurate accounts as to the effect of subcutaneous injections behind the ear. In some cases of Politzer's there was a transient effect. Vesicants seem to avail nothing, except in recent cases, with no evident objective changes. No effect has been seen from internal remedies. Quinine has some effect in intermittent attack of tinnitus, with, however, temporary decrease of hearing power. In cases occurring in patients with constitutional syphilis, iodide of potassium relieves the deafness and noise. B. Shulz has seen a favorable effect from the use of the galvanic current.—*Wien Med. Wochenschrift, Leipzig Zeitschrift für Medicin, etc.*, from *Medical Record*.

The Zoological Section of the French Academy.—The place recently vacant by the death of M. Dufour was given to M. Van Beneden, the Belgian *savant*, to whom we owe so much of our knowledge of the development of tapeworm. The post was well contested; the names in alphabetical order in the second line being the following:—Filippi, Turin; Huxley, London; Leuckart, Giessen; Pictet, Geneva; Sars, Christiania; Siebold, Munich; Steenstrup, Copenhagen; and Voget, Geneva.—*London Lancet*.

Mixed Vapors.—Two cases of death from mixed vapors of ether and chloroform are referred to in the *Observer* newspaper. Hitherto it was believed that the mixed vapors were harmless.—*Medical Press and Circular*.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, DECEMBER 15th, 1866.

DEATHS.

| | Males. | Females. | Total. |
|--|--------|----------|--------|
| Deaths during the week | 29 | 42 | 71 |
| Ave. mortality of corresponding weeks for ten years, 1855—1865 | 34.5 | 38.1 | 73.6 |
| Average corrected to increased population | 00 | 00 | 79.95 |
| Death of persons above 90 | 0 | 0 | 0 |

BOOKS RECEIVED.—The Common Nature of Epidemics. By Southwood Smith, M.D. Philadelphia; J. B. Lippincott & Co.—Reports of Brevet Brigadier General D. C. McCallum, Director and General Manager of the Military Railroads of the United States, and the Provost Marshal General. In two Parts. (From J. H. Baxter, Surg. and Bvt. Col. U.S.A.)

DIED,—In East Boston, Dec. 15th, J. J. Fales, M.D., 69.

DEATHS IN BOSTON for the week ending Saturday noon, Dec. 15th, 71. Males, 29—Females, 42. Accident, 5—apoplexy, 2—congestion of the brain, 3—disease of the brain, 2—bronchitis, 2—burns, 1—consumption, 15—convulsions, 2—croup, 4—debility, 1—diphtheria, 1—dropsy, 3—dropsy of the brain, 1—scarlet fever, 3—typhoid fever, 1—disease of the heart, 2—infantile disease, 1—intemperance, 1—disease of the kidneys, 1—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 5—marasmus, 1—measles, 1—old age, 1—paralysis, 1—puerperal disease, 2—premature birth, 1—ulcers, 1—unknown, 5.

Under 5 years of age, 25—between 5 and 20 years, 11—between 20 and 40 years, 17—between 40 and 60 years, 9—above 60 years, 9. Born in the United States, 51—Ireland, 11—other places, 6.